



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/806,775

07/09/2001

Markku Rajala

0386/00294

5959

7590 08/29/2008
Burton A Amernick
Connolly Bove Lodge & Hutz
PO Box 19088
Washington, DC 20036-0088

EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

08/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/806,775	Applicant(s) RAJALA ET AL.	
	Examiner John Hoffmann	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 37-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/6/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

Art Unit: 1791

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 37-38, 41-44, 46-47 and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 4388098 in view of Tikkanen FI 988328, Ruppert 6079225, Bocko 4604118 and Kuisl 4564378.

Takahashi is directed to making multi-component lanthanum glass; it is acknowledged that such is not a simple and has impurity problems (col. 1, lines 12-53). Takahashi's solution involves feeding a nebulized lanthanum solution to a burner (see, for example, Takahashi, col. 2, lines 3-29.)

It is known that the use of a nebulizer is problematic: See Tikkanen (first full paragraph, page 4 of the translation) which indicates that nebulized material can nucleate into large droplets. Ruppert also reports the further disadvantages that such nebulizing requires costly pumps and ultrasonic atomizers, and are maintenance intensive and are subject to mechanical wear (col. 1, lines 42-49). Tikkanen teaches the solution to the problem: the use of an atomizing gas at the burner face (page 5, lines 1-6). It would have been obvious to use the Tikkanen atomizer/burner combo to create the lanthanum multi-component glass because it is disclosed as a way of overcoming the prior art problem. Ruppert recognizes substantially the same solution: atomizing at the flame.

Although Tikkanen does not describe the use of a second glass component. Bocko serves as evidence as to what is conventional for making multi-component glass at col. 1, lines 54-68. And starting at col. 4, line 63, Bocko also teaches to use a gas

Art Unit: 1791

shield to prevent interaction between components. Kuisl at col. 2, lines 17-25 discloses that SiCl_4 reacts with water. Thus one would understand that Takahashi's aqueous compound might react with the SiCl_4 if mixed prematurely – and thus would use the Bocko teaching of using concentric tubes – and preferably with a shield gas.

In summary: it would have been obvious to improve the Takahashi multicomponent method, by using the superior Tikkanen burner augmented by supplying the SiCl_4 in a concentric fume tube around the nebulizer.

IT would have been further obvious to perform routine experimentation to determine the optimal gas introduction location for the oxygen, hydrogen and inert gas, such being a known result effective variable (Tikkanen, page 9).

Claim 38 is clearly met in light of the above discussion.

Claim 41: it is deemed inherent that such would result in homogeneous glass, because substantially the same thing happens. Based on Page 5, lines 6-12, applicant creates two different oxides that combine to become homogeneous. Since the same general conditions exists with the above combination, one would expect the same result.

Claims 42-44, 46-47, 50-51 are clearly met in light of the above discussions.

Claims 39-40, 45, 48, 49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi 4388098 in view of Tikkanen FI 988328, Ruppert

Art Unit: 1791

6079225, Bocko 4604118 and Kuisl 4564378 as applied to claims 37-38, 41-44, 46-47 and 50-51, and further in view of Ainslie 4923279.

Takahashi does not disclose the use of erbium (nitrate) or aluminum. Rather, another rare earth salt (Lanthanum nitrate) and, most generically, “at least one metal salt” (col. 2, line 54) are disclosed. Takahashi uses nitrates as the salt in 4 of the 5 examples.

Ainslie teaches that erbium is one of the two most important rare earths than that one can make oscillators, lasing devices and amplifiers; Ant that aluminum eliminates lose of dopants (col. 1, lines 13-26, 48-53; col. 3, lines 19-25 and col. 2, lines 40-45). It would have been obvious to use erbium as the metal because such is most important and to make oscillators, amplifiers and lasing devices. And further obvious to use aluminum so as to prevent the loss of dopants. It would have been further obvious to supply the metal salt as nitrate, because Ainslie clearly favors the use of nitrates.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tumminelli is cited as being similar in number to the patent cited in the IDS and for being directed to erbium doping.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

Art Unit: 1791

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1791

/John Hoffmann/
Primary Examiner, Art Unit 1791